



**Invasive
species**

Autumn Olive

Background, Life History

Autumn olive (*Elaeagnus umbellata*) is a nitrogen-fixing shrub or small tree native to East Asia. First introduced into North America in the 1830s, it was originally used for strip mine reclamation and to provide food and cover for wildlife. It continues to be planted as an ornamental shrub and for windbreaks.

This shrub grows in sand, loam or clay-based soils and prefers substrates with a neutral pH. It often grows in poor soils due to its nitrogen-fixing roots. While it can grow in light shade, it prefers full sun. It is drought tolerant and invades grasslands and sparse woodlands, though it is more prevalent in disturbed areas, pastures and fields.

Autumn olive is a rapid growing, deciduous shrub that can reach a height of 20 feet. It has dark green, alternate leaves that are oval to lance shape with smooth, wavy margins. The underside is covered with distinctive silver-white scales, and brown dots that are especially evident in the spring. Young twigs also are densely covered with silvery scales and brown dots. Older branches sometimes develop thorns.

When the plant is 2 to 3 years old, it produces yellow flowers in April and May. The fruit is small, reddish pink and is readily consumed by birds and some small mammals. Each plant can produce several pounds of fruit. Animals, especially birds, disperse the seed after they eat the fruit.



James R. Allison, Georgia Department of Natural Resources, Bugwood.org

Impacts

Autumn olive grows rapidly, thrives in poor soil and its prolific fruit is widely dispersed by birds. Due to its nitrogen-fixing capabilities, it can adversely affect the nitrogen cycle of the native communities that depend on infertile soils. These characteristics make it an aggressive and competitive threat to native species in open communities such as prairies, savannahs and woodlands. Due to its large size, it interferes with natural succession by creating dense shade that prohibits native plants from growing.



Pennsylvania Department of Conservation and Natural Resources - Forestry Archive, Bugwood.org



Nancy Loewenstein, Auburn University, Bugwood.org



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The prolific fruit is widely spread by birds.

Yellow flowers appear in April and May.

Autumn olive grows quickly and shades out native plants.

Control

Autumn olive is easily identified in the spring because its leaves appear while most native vegetation is still dormant. When the plant is small and the ground is moist, it may be removed by hand pulling.

The most effective way to control this plant is with a combination of mechanical and chemical treatment. Cut the plant off at the main stem, and apply a solution of 10 to 20 percent glyphosate directly on the cut stump to kill the root system. Apply 1 to 2 percent triclopyr or glyphostae to resprouting leaves with a hand sprayer. The best time for the cut-stump method is July through September during the late growing season, although it also may be used when the plant is dormant. Cutting alone should be avoided because it can lead to a thicker, denser stand.

In low-quality plant communities, basal bark treatments can be effective and requires less effort. Apply a narrow band of active ingredient triclopyr, diluted in diesel oil at a 1:3 ratio around the trunk 6 to 12 inches above the ground. Basal bark applications can be made with a hand sprayer and should be performed during the dormant season to minimize risk to nontarget species. Use a hand sprayer to apply 1 to 2 percent triclopyr or glyphosate the following spring to control resprouting.

Identifying Autumn Olive

- up to 20 feet tall
- dark green, alternate leaves that are oval to lance shape with smooth, wavy margins
- distinctive silver-white scales, and brown dots underneath leaves that are especially evident in spring
- silvery scales and brown dots densely cover young twigs
- sometimes thorns on older branches
- yellow flowers in April and May
- small, reddish pink fruit

Native Look-alikes

Native gum (*Bumelia lanuginosa*) also has leaves with silvery undersides and thorny twigs that are whitened, but its leaf tips are much more rounded and do not have brown dots.

Replacing Autumn Olive

As a replacement for autumn olive, plant these environmentally friendly native species: hawthorns, plums, ninebark, hazelnut, serviceberry and dogwoods.

For Additional Information

- www.na.fs.fed.us/fhp/invasive_plants/weeds/autumn-olive.pdf
- www.invasive.org/eastern/srs/AO.html
- www.invasive.org/eastern/midatlantic/elum.html
- www.inhs.uiuc.edu/chf/outreach/VMG/autolive.html

www.MissouriConservation.org

For more information or to report a population, contact your local Missouri Department of Conservation office, e-mail WildlifeDivision@mdc.mo.gov, or write:

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